

AMENDMENTS TO THE SPECIFICATION:

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Please substitute the following paragraph for the paragraph beginning at line 14.

An additional shortcoming of conventional toroidal inductive devices is that they have a vulnerability to high in-rush current. Such devices generally cannot provide controllable magnetic reluctance, because they are manufactured such that they have no control over a gap in the magnetic flux path. Investigation by the present inventor has revealed that although no gap control is apparent, the flux, which is circular and closed by definition, must pass through an effective gap created by the magnetic portion being spirally constructed and thus not integrally circular. See, for example, FIG. 56, which illustrates magnetic flux 80 in relation to a spiral magnetic member 120. Because the gap is distributed along a length of the magnetic material, the virtual or cumulative gap is very small and thus rendered inconsequential to the operation of the device. The gap is effectively so small that it is necessary in many cases to accommodate the current in-rush problem by adding protective circuitry, such

as a current limiting resistor, to the basic device. This increases the overall cost of the device.

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Please substitute the following paragraph for the paragraph beginning at line 14.

In the illustrative form of Fig. 1, the magnetic components 12 are spaced circumferentially of the toroidal electric winding component. However, the magnetic components can also be abutted or even overlapped circumferentially of the electrical component to achieve more complete coverage of the electrical winding component by the magnetic portion thus formed, thereby enhancing the magnetic characteristics of the device. For example, the electrical component can be completely encased by the magnetic portion of the device with the exception of a small space between a single pair of magnetic components to accommodate the passage of the electrical leads to the electrical winding component, as shown in FIG. 1A. To facilitate both coverage of the electrical component and overall compactness of the finished device, the magnetic components are preferably formed to have a wedge shape or substantially a circular sector shape, with outwardly diverging sides in plan view as

shown in FIG. 1 A. This will result in an increasing thickness of the wire bundle of each magnetic component toward the central hole of the toroidal electrical winding component (see also FIG. 1 B), and consequently more efficient utilization of the space within the hole to accommodate magnetic material, thereby allowing for a more compact device.

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Please substitute the following paragraph for the paragraph beginning at line 6.

FIG. 2 shows a toroidal inductive device, in partially assembled form, using modular magnetic components having a generally toric sectional shape. The electrical winding component 11 has several magnetic components 12 placed on it. An additional magnetic component ~~12a~~12 is shown not yet placed on the electrical component 11. As shown in FIG. 2, the magnetic component ~~12a~~12 has been sliced through at the portion corresponding to the outer circumference of the toroid to create two ends 15, 16 which can be spread apart to allow for insertion of the component 12 over the component 11 as previously explained. In practice of the invention, magnetic component ends 15, 16

may be butted, overlapped, or spaced once the magnetic component ~~12a~~12 has been placed about the electrical core 11. Each magnetic component 12 is wedge shaped as earlier described and is therefore thicker at the inner circumferential portion within the toroid interior opening and thinner at the outer circumferential portion of the toroid. The inner circumferential portion of the magnetic component 12 is indicated in FIG. 2 by number 14. The thicker inner circumferential portion 14 is created in winding the magnetic wire around the jig to form the magnetic component 12, wherein the wire gathers toward the inner circumference of the generally toroidal sectional jig. Electrical interface wires 13 egress from the inner portion of the toroidal inductive device via gaps between magnetic components 12. However, it should be appreciated that any suitable method that allows connection to the electrical component can be used.